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(19)  JAPANESE PATENT OFFICE

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(71) Applicant: FUJITSU LTD

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(72) Inventor: TERAUCHI SEIICHI  
                  TAMURA HIROSHI

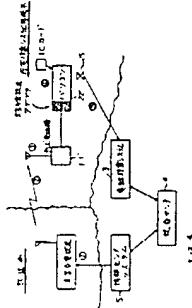
(54) TERMINAL EQUIPMENT FOR HOME VOTING  
      SYSTEM

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(57) Abstract:

PURPOSE: To attain voting of cycle race or horse racing at home by broadcasting information such as rank of racing or odds in teletext, using a personal computer to predict the order based on the received information and applying voting by a phone.

CONSTITUTION: An information center system 5 of a sponsor receives cycle racing or horse racing information such as ranking of content and odds from an overall center of a voting ticket sales system and sends the result to a teletext multiplex broadcast station 1. The teletext multiple broadcast station 1 applies teletext multiple broadcast to the information. The information is received by a home voting system terminal equipment comprising a television receiver 3 and a personal computer 4 or the like, the result of race is predicted by using the personal computer 4 and the telephone voting is applied from the personal computer 4 to the telephone voting system 3 via a public line based on the result of prediction.



⑨ 日本国特許庁 (JP)

⑩ 特許出願公開

⑪ 公開特許公報 (A) 昭64-25659

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Z-8725-5C

⑬ 公開 昭和64年(1989)1月27日

審査請求 未請求 発明の数 1 (全6頁)

⑭ 発明の名称 在宅投票システム用端末

⑮ 特願 昭62-182638

⑯ 出願 昭62(1987)7月22日

⑰ 発明者 寺内 誠一 神奈川県川崎市中原区上小田中1015番地 富士通株式会社  
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⑳ 代理人 井桁 貞一

明細書

1. 発明の名称

在宅投票システム用端末

2. 特許請求の範囲

(1) 在宅投票システムにおいて、該在宅投票システム用端末を、文字多重放送機構を備えたテレビ受信機(1)と、計算機システム(2)、又はテレビ受信機(1')と、文字多重放送アダプタを内蔵した計算機システム(2')とから構成して、

上記テレビ受信機(1)、又は上記計算機システム(2')内の文字多重放送機構からの、文字多重放送用のディジタル信号を変換して、計算機システム(2、又は2')に入力し、掲集、処理した結果を表示する手段と、

該計算機システム(2、又は2')からの指示に基づいて、該計算機システム(2、又は2')のキーボード(KB)(25)より、電話投票システム(3)に投票情報を入力する手段(⑩)とを備えたことを特徴とする在宅投票システム用端末。

(2) 上記在宅投票システム用端末における計算機システム(2、又は2')に、投票用ICカードから、投票情報を入力する手段を備えたことを特徴とする特許請求の範囲第1項に記載の在宅投票システム用端末。

3. 発明の詳細な説明

(概要)

在宅投票システムにおける該在宅投票システム用端末に関し、

投票券発売システムセンタでの、電話投票システムからの投票処理の輻輳を少なくして、該センタ機能を大きくすることなく、且つ低成本で電話投票ができる目的とし、

在宅投票システムにおいて、該在宅投票システム用端末を、文字多重放送機構を備えたテレビ受信機と、計算機システム、又はテレビ受信機と、文字多重放送アダプタを内蔵した計算機システムとから構成して、上記テレビ受信機、又は該計算機システム内の文字多重放送機構からの、文字多

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重放送用のデジタル信号を変換して、計算機システムに入力し、収集、処理した結果を表示する手段と、該計算機システムからの指示に基づいて、該計算機システムのキーボード(KB)より、電話投票システムに投票情報を入力する手段とを備えるように構成する。

(産業上の利用分野)

本発明は、在宅投票システムにおける該在宅投票システム用端末に関する。

現在の投票券発売システムの如きトーカリゼーターシステムにおいては、投票券の購入方法として、場内、場外の投票券発売窓口で、馬券等の投票券を購入する現金投票システムと、会員制の電話投票システムがある。

この内、電話投票システムは、顧客が競馬、競輪等の情報を、新聞、テレビ、ラジオ等を利用して収集し、自分で解釈した結果に基づいて、電話機を用いて、予め、定められた手順のキーイング処理により投票していた。

ダウンロード型情報の内、付加価値通信網(VAN)、パソコン通信等の有線型のネットワークでは、将来データ提供先(所謂、会員)が数十万人になった場合、トラフィックの集中の為、センタ設備が巨大となり、設備費、運用費が莫大なものになる。又、アクセスチャージ料の徴収を如何にうまく運用するかも解決しなければならない。

然し、該ダウンロード型方式でも、送り手側が情報を一方的に垂れ流す、無線式の文字多重放送を使用して入手するようすれば、データアクセス料、回線使用料等の問題もなく、経済的に、競馬、競輪等の情報を入手することができるようになる。

又、この情報を、データ処理機能を備えたパソコン等に蓄積するようすれば、投票を行うのに最も効果的なデータに、該情報を加工、表示することができ、競馬、競輪等の主催者側のセンターシステムの負担を著しく軽くすることが期待できる。

この電話投票システムでは、投票手段が電話機であって、インテリジェンスが低い為、収集した情報を蓄積して、加工するのに有効な手段がなく、該電話機を介して、投票券発売システムにおける総合センタに問い合わせを行うにしても、該センタシステムでのデータベースの構築限界から、競馬、競輪場の状況、天候状況、出走取り消し情報程度に限定されると云うのが現状であり、顧客が投票するのに有効な情報が少なく、顧客に対するサービス性が悪いと云う問題があった。

一方、一般に、実用化し始めているキャプテンシステム、ビデオテックスシステム、文字多重放送システム等を利用することにより、競馬、競輪等に関する最新の情報を、任意の時間に、手早く、的確に知ることができる情勢にある。

このような競輪、競馬等の情報を入手する方法は、該競馬、競輪等の主催者側が、一方的に情報を出し、該送出された情報を、顧客の方でダウンロードする方式と、顧客と主催者側が相互に情報交換する双向型通信とに大別される。

(従来の技術と発明が解決しようとする問題)

第3図は、従来の電話投票システムの構成例を示した図である。

前述のように、現在のトーカリゼーターシステムにおける投票券の購入方法としては、場内、場外の発売窓口で、投票券を購入する現金投票システムと、会員制の電話投票システムがある。

現金投票システムでは、現在以上に競技場内に、上記投票券発売窓口を増加させることは余り期待できないし、場外に至っては、住民運動・地元の商店街等の思惑があって、建設が容易でないのが現状である。

本図に示した、電話投票システム3においては、年々着実に設備、加入者とも伸びてはいるが、端末が電話機であって、且つ有線による双向通信であると云うことから、1つの電話投票システム3当たりの加入者7を限定しないと、総合センターシステム4でのデータ処理が膨大して、顧客に対するサービスが低下する問題があり、結果として、該センタ設備が大きくなり、運用コストも増加し

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てしまうと云う問題があった。

本発明は上記従来の欠点に鑑み、顧客が家庭において、競馬、競輪等のレース結果を予想をし、効果的な投票を行うことができる電話投票システムの構成を図る為の在宅投票システム用端末を構成することを目的とするものである。

#### (問題点を解決するための手段)

第1図は本発明の在宅投票システム用端末の原理図である。

上記問題点は、

(1) 在宅投票システムにおいて、該在宅投票システム用端末を、文字多重放送機構を備えたテレビ受信機1と、計算機システム2、又はテレビ受信機1' と、文字多重放送アグリゲーターを内蔵した計算機システム2' とから構成して、

上記テレビ受信機1、又は上記計算機システム2' 内の文字多重放送機構からの、文字多重放送用のデジタル信号を変換して、計算機システム2、又は2' に入力し、編集、処理した結果を表示

する手段と、

該計算機システム2、又は2' からの指示に基づいて、該計算機システム2、又は2' のキーボード(KB)25より、電話投票システム3に投票情報を入力する手段とを備えるように構成する。

(2) 上記在宅投票システム用端末における計算機システム2、又は2' に、投票用ICカードから、投票情報を入力する手段を備えるように構成する。

#### (作用)

即ち、本発明によれば、

競馬、競輪の主催者(競馬会、競輪会等)側での情報センターシステムで生成した競馬、競輪等に関する情報を、放送局に対してダウンロード型情報として送信し、放送局から文字多重放送で該情報を流す。

この文字多重放送を、テレビ受信機、パソコン等の計算機システムとで構成されている本発明の在宅投票システム用端末で受信し、該受信した情報を蓄積して、この情報を元に、例えば、該パソ

コン内の予想ソフトウェアによって、レースの結果を予測し、該予測結果に基づいて、該パソコンが指示する手順に従って、該パソコンから公衆回線を介して電話投票するようにしたものであるので、競馬、競輪情報をダウンロードで経済的に入手でき、データ転送は公衆回線の為、従来の有線の双方向通信に比較してセンタでの幅狭が軽減され、1電話投票システム当たりの加入者数制限も緩和され、且つ、パソコンのデータ処理機能によって、該情報を自由に加工、編集して、どのレースに投票すれば良いかを効率良く判断できる情報を提供できる端末を構成できる効果がある。

#### (実施例)

以下本発明の実施例を図面によって詳述する。

前述の第1図が、本発明の在宅投票システム用端末の原理図であり、第2図は本発明の一実施例をブロック図で示した図であって、文字多重放送のデジタル信号を変換して、パソコン2に入力する手段、及びパソコン2からの指示に基づいて

電話投票システム3に投票する手段が本発明を実施するのに必要な手段である。尚、全図を通して同じ符号は同じ対象物を示している。

以下、第1図、第2図によって、本発明の在宅投票システム用端末の構成と、その動作概要を説明する。

本発明の在宅投票システムは、第1図の原理図から明らかのように、文字多重放送を行う放送局テレビ受信機1と、パソコン2からなる在宅投票システム用端末、及び主催者側の電話投票システム3、総合センタ4、情報センターシステム5等で構成されており、テレビ受信機1と、パソコン2からなる在宅投票システム用端末が、本発明の中心となるものである。

該在宅投票システム内での動作は、以下の通りである。(第1図参照)

① 主催者側の情報センターシステム5より、文字多重放送局に対して、ダウンロード型の競馬、競輪等の情報が送信される。尚、この情報センターシステム5は、投票券発売システムの総合センタ

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4から競技成績、オッズ等の形で該競馬、競輪等の情報をもらう。

② 放送局より、文字多重放送で、該情報を流す。

③、④ 本発明の在宅投票システム用端末を構成しているテレビ受信機 1 で該文字多重放送を受信し、該受信したデータ（デジタル信号）を、パソコン用のデジタル信号に変換して、パソコン 2 が持っているデータ処理機能によって、投票したいレースを認識するのに便利な情報を加工、編集（例えば、予測システムで、勝敗馬等を予測する等）して、表示部の表示画面に表示する。

⑤ 顧客は該パソコン 2 と対話的に、メニューの選択を行って、電話投票と同じ手順の投票を、公衆回線 6 を介して電話投票システム 3 に対して行う。

第2図は在宅投票システム用端末の一実施例をブロック図で示したものである。

本実施例においては、テレビ受信機 1 と、文字多重放送アダプタ 11 と、パソコン 2 とから構成

用いて、投票するようにしても良い。

特に、該在宅投票システム用端末が、家庭ではなくて、特定の場内、場外に設置されていて、そこから在宅投票と同じ手順で電話投票を行う際、該 IC カードを用いることにより、所謂キャッシュレス投票を行うことができる。

この場合には、該 IC カードは顧客の入・出場音理にも使用することができるメリットが得られる。

尚、上記の実施例においては、テレビ受信機 1 に、文字多重放送アダプタ 11P を付加した例で説明したが、第1図の原理図に示したように、パソコンに該文字多重放送アダプタを内蔵させても良いことは云う迄もないことである。

このように、本発明は、文字多重放送が一方的に情報を垂れ流すダウンロード型情報であることと、最近のパソコン等の小型の計算機システムに十分なデータ処理機能があることに着目し、家庭等において、競馬、競輪の主催者側から送信されに情報を文字多重放送を介してパソコン内に取り

されており、文字多重放送アダプタ 11 のデジタル出力（画面データで、文字多重放送 21P インタフェース（日本工芸規格準拠））を、変換器 12 で、RS 232C インタフェースの信号に変換した後、パソコン間の通信に利用されている公知の出入力アダプタ（ADP）（例えば、RS 232 Cアダプタ）22 を介して、該パソコン 2 のデータバスから主記憶装置（MS）21 に格納する。

該パソコン 2 の中央処理装置（CPU）20 は、特定のプログラムを実行することにより、該データを加工、編集し、再び、主記憶装置（MS）21 に格納する。

顧客は、対話的に、該加工されたデータを検索して、必要な情報を表示部 23 の画面に表示させた後、通信アダプタ部 24 を起動して、キーボード（KB）25 から、予め、定められた手順で、投票情報を、電話網 6 を介して、電話投票システム 3 に転送する。

又、必要に応じて、ICカード制御部 26 から、投票券の購入情報を格納されている IC カードを

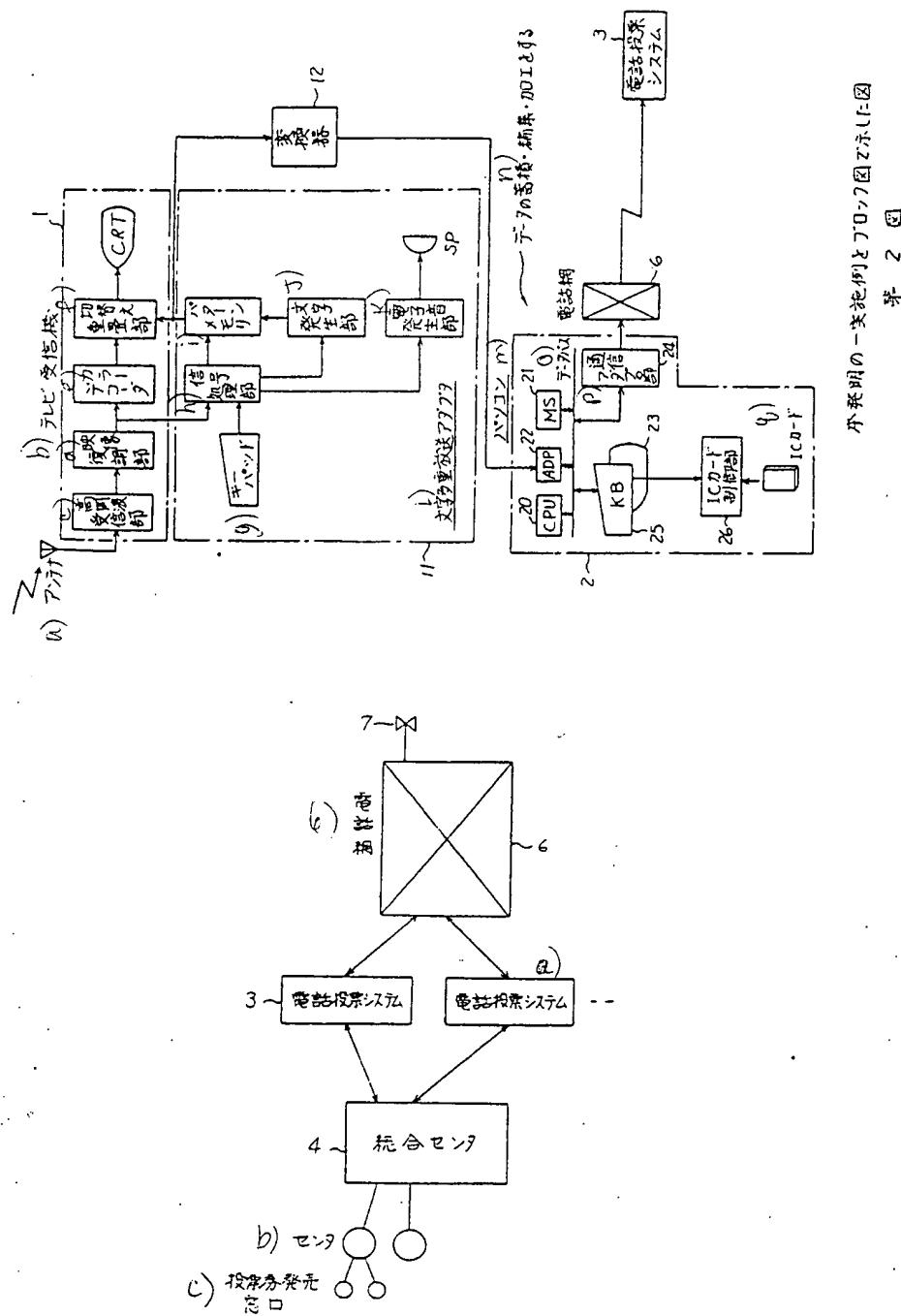
込み、該パソコンのデータ処理機能を用いて、加工、編集して、レースの勝敗の予測等を行い、該パソコンと対話的に、予め、定められた手順によって、キーボード（KB）から電話投票を行うようにした所に特徴がある。

（発明の効果）

以上、詳細に説明したように、本発明の在宅投票システム用端末は、競馬、競輪の主催者（競馬会、競輪会等）側での情報センターシステムで生成した競馬、競輪等に関する情報を、放送局に対してダウンロード型情報として送信し、放送局から文字多重放送で該情報を流す。

この文字多重放送を、テレビ受信機、パソコン等の計算機システムとで構成されている本発明の在宅投票システム用端末で受信し、該受信した情報を蓄積して、この情報を元に、例えば、該パソコン内の予想ソフトウェアによって、レースの結果を予測し、該予測結果に基づいて、該パソコンが指示する手順に従って、該パソコンから公衆回





従来の電話投票システムの構成例を示す図

第3図

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Qualified in Queens County  
Certificate filed in New York County  
and Kings County  
Commission Expires July 27, 2002

TRANSLATION FROM JAPANESE

(19) JAPANESE PATENT OFFICE (JP)

(12) Official Gazette for Laid-Open Patent Applications (A)

(11) Japanese Laid-Open Patent Application (Kokai) No.

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Request for Examination: Not yet submitted

Number of Claims/Inventions: 1

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System

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## SPECIFICATION

### 1. Title of the Invention

Terminal for home betting system

### 2. Claims

(1) A terminal for a home betting system characterized by the fact that said terminal for a home betting system comprises a television receiver (1) equipped with a character multiplex broadcasting mechanism and a calculator system (2) or a television receiver (1') and a calculator system (2') with an internal character multiplex broadcasting adapter; and

being equipped with a means for converting digital signals for character multiplex broadcasting from the character multiplex broadcasting mechanism in the aforementioned television receiver (1) or the aforementioned calculator system (2'), inputting the signals to the calculator system (2 or 2'), editing them, and displaying processing results, and

a means ((5)) for inputting betting information from a keyboard (KB) (25) for said calculator system (2 or 2') to a telephone betting system (3) based on instructions from said calculator system (2 or 2').

(2) A terminal for a home betting system cited in Claim 1 characterized by the fact of comprising a means for inputting betting information from an IC card for betting to

a calculator system (2 or 2') in the aforementioned terminal for a home betting system.

### 3. Detailed Description of the Invention

#### [Outline Summary]

The present invention relates to the aforementioned terminal for a home betting system in a home betting system,

has the object of decreasing the congestion of betting processing from a telephone betting system in a betting ticket sales system center, and making telephone betting possible without expanding the center functions and at a low cost,

and is constructed such that the terminal for a home betting system in a home betting system is constructed from a television receiver equipped with a character multiplex broadcasting mechanism and a calculator system, or a television receiver and a calculator system with an internal character multiplex broadcasting adapter, and is equipped with a means to convert digital signals for character multiplex broadcasting from the aforementioned television receiver or the character multiplex broadcasting mechanism in the calculator system, input the signals to the calculator system, edit them, and display processing results, and a means to input betting information using a keyboard (KB) for the calculator system to a telephone betting system based on instructions from the calculator system.

[Field of Industrial Utilization]

The present invention relates to the terminal for a home betting system in a home betting system.

As with a current betting ticket sales system, a totalizator system has a cash betting system for purchasing betting tickets such as horse tickets at an on-racetrack or off-racetrack betting ticket sales window as a method for purchasing betting tickets, and a membership type telephone betting system.

With a telephone betting system, customers gather racehorse, bicycle racing and other such information using newspapers, television, radio and the like, and bet based on the results of their own analyses using a telephone using a keying procedure decided beforehand.

With this telephone betting system, there are the problems that the betting means is a telephone, and the intelligence is low, so there is no effective means of accumulating and processing the collected information; and even if an inquiry is made to the integrated center in the betting ticket sales system through the telephone, the current situation is such that due to limitations on the architecture of the database in the center system, there is a limitation to information such as the status of racehorse and bicycle race tracks, the weather conditions and starting cancellations; there is little information useful to the customer for betting, and the quality of service to the customer is poor.

In general, through the use of captain systems, video tape systems, character multiplex broadcasting systems and the like which are beginning to come into practical use, the state of affairs is such that the latest information relating to horse races, bicycle races and the like can be known accurately, quickly, and at an arbitrary time.

Methods for obtaining information on such bicycle races, horse races and the like can be generally divided into a method where the organizer of the horserace, bicycle race or the like unilaterally sends out information, and the sent information is downloaded by the customer, and bilateral communication where the customer and the organizer mutually exchange information.

With the download information, when the number of future data recipients (so-called members) reaches tens of thousands of people in a wired type network such as a value-added network (VAN) or in personal computer communication, the center equipment becomes vast because of the concentration of traffic, and the equipment expenses and operating expenses become immense. Also, how to capably operate the collection of access charge fees must be solved.

With the download method, if a system is used where the sender unilaterally lets information flow and wireless character multiplex broadcasting is used to obtain information, there is no problem such as data access fees or circuit use fees, and obtaining horseracing, bicycle racing and other such information can be made economical.

If this information is accumulated in a personal computer or the like equipped with data processing functions, the information can be processed and displayed as the most effective data for betting, and a markedly lighter burden on the center system of the organizer of the horseracing, bicycle racing or the like can be expected.

[Prior Art and Problems the Invention is Intended to Solve]

Fig. 3 is a diagram showing a sample construction of a conventional telephone betting system.

As described above, as methods for purchasing betting tickets in a current totalizator system, there are a cash betting system where betting tickets are purchased at an on-racetrack or off-racetrack window, and a membership type telephone betting system.

With the cash betting system, little can be expected from increasing the aforementioned betting ticket sales windows in the race arena beyond the current situation, and off-racecourses have a reputation among resident movements/local shopping malls and the like, so currently, construction is not easy.

In the telephone betting system 3 indicated in this diagram, the equipment and subscribers increase steadily each year, but the terminal is a telephone, and because bilateral communication uses fixed wiring, if the number of subscribers per telephone betting system 3 is not limited to 7, the data processing at an integrated center system 4 becomes

congested, so there is the problem of a decrease in service to customers, the result of which is the problem that the center equipment becomes larger, and the operating costs increase.

The present invention considers the aforementioned conventional drawbacks, and has the object of constructing a terminal for a home betting system for providing a telephone betting system with which customers can predict horse race, bicycle race and other race results, and make effective bets.

[Means Used to Solve the Aforementioned Problems]

Fig. 1 is a drawing of the principle of a terminal for a home betting system of the present invention.

The aforementioned problems are

(1) Making a construction such that a terminal for a home betting system comprises a television receiver 1 equipped with a character multiplex broadcasting mechanism and a calculator system 2 or a television receiver 1' and a calculator system 2' with an internal character multiplex broadcasting adapter; and

providing a means for converting digital signals for character multiplex broadcasting from the character multiplex broadcasting mechanism in the aforementioned television receiver 1 or the aforementioned calculator system 2', inputting the signals to the calculator system 2 or 2', editing them, and displaying processing results, and

providing a means 5 for inputting betting information from a keyboard KB 25 for said calculator system 2 or 2' to a telephone betting system 3 based on instructions from said calculator system 2 or 2'.

(2) Making a construction such that the aforementioned terminal for a home betting system comprises a means for inputting betting information from an IC card for betting to a calculator system 2 or 2' in the aforementioned terminal for a home betting system.

#### [Operation of the Invention]

More specifically, according to the present invention, information relating to horse racing, bicycle racing or the like generated in an information center system by the organizer of the horse race or bicycle race (the horseracing organization, bicycle racing organization or the like) is transmitted as download information to a broadcasting station and that information is fed from the broadcasting station with character multiplex broadcasting.

The present invention has the effect that a terminal can be constructed for which character multiplex broadcasting is received by the terminal for a home betting system of the present invention constructed with a television receiver and a calculator system such as a personal computer, the received information is accumulated, the results of a race are predicted based on that information using, for example, prediction software on the personal computer, and telephone

betting is made through a public circuit from the personal computer according to a procedure given by the personal computer based on the prediction results, so horse racing and bicycle racing information can be obtained economically by downloading, and the data transfer is done with a public circuit, so the congestion at the center is alleviated compared to conventional fixed line bilateral communication, the restriction on the number of subscribers per telephone betting system is loosened, and the information is processed and edited freely with the data processing function in the personal computer, and information can be provided with which race to bet on and can be efficiently evaluated.

#### [Working Examples]

Working examples of the present invention are described below using the drawings.

The aforementioned Fig. 1 is a drawing of the principle of a terminal for a home betting system of the present invention; Fig. 2 is a drawing indicating a block view of an embodiment of the present invention; a means whereby digital signals of character multiplex broadcasting are converted and inputted to a personal computer 2, and a means whereby betting with a telephone betting system 3 based on instructions from the personal computer 2 are needed to work the present invention. Identical reference numerals in different drawings indicate the same object.

A construction of a terminal for a home betting system of the present invention and an outline of its operation are described using Fig. 1 and Fig. 2.

As is made clear from the drawing of the principle in Fig. 1, a terminal for a home betting system of the present invention comprises a broadcasting station television receiver 1 for character multiplex broadcasting and a personal computer 2, or comprises a telephone betting system 3 of the organizer, an integrated center 4, and information center system 5, and the like; a terminal for a home betting system comprising a television receiver 1 and a personal computer 2 as the core makes up the core of the present invention.

An operation of the home betting system is as follows.  
(Refer to Fig. 1)

(1) Download horse race, bicycle race or other such information is transmitted to a character multiplex station from the information center system 5 of the organizer. The information center system 5 receives the horse race, bicycle race or other such information in a form such as racing records, odds or the like from the integrated center 4 of the betting ticket sales system.

(2) The information is fed by the broadcasting station using character multiplex broadcasting.

(3), (4) The character modulation broadcast is received with the television receiver 1 comprising the terminal for the home betting system of the present invention, and the

received data (digital signals) is converted to digital signals for a personal computer, which are processed and edited (for example, predicting, etc., the losing and winning horses with a prediction system) into information convenient for recognizing a race that one wants to bet on using data processing mechanisms in the personal computer, and this is displayed on a screen display of a display part.

(5) The client makes a menu selection in a dialog fashion with the personal computer 2, and betting using the same procedure as with the telephone betting is made with the telephone betting system 3 through the public circuit 6.

Fig. 2 indicates a block view of an embodiment of a terminal for a home betting system.

The present embodiment comprises a television receiver 1, a character multiplex broadcasting adapter 11 and a personal computer 2; after a digital output (a character multiplex broadcasting 21P interface with screen data (Japan Industrial Standard)) from the character multiplex broadcasting adapter 11 is converted to RS 232C interface signals with a converter 12, these are stored in a main storage device (MS) 21 from a data bus of the personal computer 2 via a well known input output adapter (ADP) (for example, an RS 232 C adapter) used in communication between personal computers.

A central processing unit (CPU) 20 in the personal computer 2 executes a specified program, and the data is

thereby processed, edited, and again stored in the main storage device (MS) 21.

The client searches for the processed data in a dialog fashion, and after the needed data is displayed on a display part 23, a communication adapter part 24 is started up, and betting information is transferred from a keyboard (KB) 25 to the telephone betting system 3 via a telephone network 6 using a procedure decided beforehand.

Also, betting may be made from the IC card control part 26 using an IC card storing betting ticket purchasing information according to need.

Particularly when the terminal for a home betting system is installed therefrom not in a home but in a specified racetrack or off-racetrack, and telephone betting is made with the same procedure as home betting, it is possible to do so-called cashless betting using the IC card.

In this case, the IC card has the merits of being used also for management of the entrance/exit of the customer.

In the aforementioned embodiment, an example was described where the character multiplex broadcasting adapter 11P was added to the television receiver 1, though as indicated in the diagram of the principle in Fig. 1, it goes without saying that the character multiplex broadcasting adapter may be inside the personal computer as well.

In this manner, the present invention has the characteristic that character multiplex broadcasting is download information which is unilaterally transmitted

information, adequate data processing functions are on a small calculator system such as a recent personal computer, the information is read into the personal computer in the home or the like through character multiplex broadcasting to be sent from the organizer of the horse race or bicycle race, the information is processed and edited using the data processing functions of the personal computer, and the results of a race are predicted or the like, and telephone betting is made from a keyboard (KB) in a dialog with the personal computer using a procedure decided beforehand.

#### [Effects of the Invention]

As described above in detail, with the terminal for a home betting system of the present invention, information relating to horse races, bicycle races or the like generated with an information center system by the organizer (horse race organization, bicycle race organization or the like) of the horse race or bicycle race is transmitted as download information to a broadcasting station, and fed from the broadcasting station using character multiplex broadcasting.

The present invention has the effect that a terminal can be constructed for which character multiplex broadcasting is received by the terminal for a home betting system of the present invention constructed with a television receiver and a calculator system such as a personal computer, the received information is accumulated, the results of a race are predicted based on that information using, for example,

prediction software on the personal computer, and telephone betting is made through a public circuit from the personal computer according to a procedure given by the personal computer based on the prediction results, so horse racing and bicycle racing information can be obtained economically by downloading, and the data transfer is done with a public circuit, so the congestion at the center is alleviated compared to conventional fixed line bilateral communication, the restriction on the number of subscribers per telephone betting system is loosened, and the information is processed and edited freely with the data processing function in the personal computer, and information can be provided with which race to bet on and can be efficiently evaluated.

#### 4. Brief Description of the Drawings

Fig. 1 is a drawing of the principle of a terminal for a home betting system of the present invention.

Fig. 2 is a drawing indicating a block view of an embodiment of the present invention.

Fig. 3 is a drawing indicating an example of a construction of a conventional telephone betting system.

In the Drawings,

1 and 1' indicate television receivers,  
2 and 2' indicate personal computers  
20 indicates a central processing unit (CPU)  
21 indicates a main storage device (MS)

22 indicates an input output adapter (ADP)  
23 indicates a display part  
24 indicates a communication adapter part  
25 indicates a keyboard (KB)  
26 indicates an IC card control part  
3 indicates a telephone betting system  
4 indicates an integrated center  
5 indicates an information center system  
6 indicates a telephone network or a public circuit  
7 indicates a subscriber  
and (1) through (5) indicate betting operations.

Representative Sadakazu Iketa, Patent Attorney

Fig. 1

Diagram of the Principle of a Terminal for a Home Betting System of the Present Invention

a) Broadcasting station

- (1) Character multiplex broadcasting
- 5. Information center system
- 4. Integration center

b) Organizer

- (3) Television receiver
- 3. Telephone betting system

(4) Character multiplex broadcasting adapter

22' Personal computer

c) Terminal for home betting system

d) IC card

Fig. 2

Diagram Indicating a Block View of an Embodiment of the Present Invention

a) Antenna

b) Television receiver

c) High frequency receiving part

d) Image demodulation part

e) Color decoder

f) Switching overlay part

CRT

g) Key pad

h) Signal processing part

i) Pattern memory

j) Character generation part

k) Electronic sound generation part

SP

l) Character multiplex broadcasting adapter

12 Converter

m) Personal computer

n) Accumulate/edit/process data

20 CPU

22 ADP

21 MS

o) Data bus

25 KB

24 p) Communication adapter part

26 IC card control part

q) IC card

6 Telephone network

3 Telephone betting system

Fig. 3

Diagram Indicating an Example Construction of a Conventional Telephone Betting System

[Fig. 3]

6 Telephone network

3 Telephone betting system      a) Telephone betting system

4 Integration center

b) Center

c) Betting ticket sales window

**TRANSLATION**Pat.OPI HEI 01-25659  
(W1200-00033)**JAPANESE PATENT OFFICE****OPI PATENT OFFICIAL GAZETTE**

Patent OPI No. HEI 01-25659 (SHO 64-25659)

Date of OPI: January 27, 1989

Patent Application No. SHO 62-182638

Date of Filing: July 22, 1987

Inventors: Seiichi Terauchi and Hiroshi Murata

Applicant: Fujitsu K.K.

Title of Invention: Terminal for In-Home Betting System

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**SPECIFICATION****1. TITLE OF INVENTION: Terminal for In-Home Betting System****2. CLAIMS:**

1. A terminal for an in-home betting system comprising: a television receiver (1) having a teletext unit, and a computer system (2); or alternatively, a television receiver (1'), and a computer system (2') having a teletext adapter; said terminal for the in-home betting system further comprising:

20 means for converting a teletext digital signal provided from the teletext unit in said television receiver (1) or said computer system (2'), then inputting the result to said computer system (2 or 2'), and thereby displaying the result of editing and processing; and

means (5) for inputting bet information from a keyboard (KB) (25) of said computer system (2 or 2') into a telephone betting system (3) in accordance with instructions from said computer system (2 or 2').

2. The terminal for the in-home betting system according to Claim 1, wherein said computer system (2 or 2') of said terminal for the in-home betting system comprises means for inputting bet information from a betting IC card.

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**3. DETAILED DESCRIPTION OF THE INVENTION****[Summary]**

The present invention relates to an in-home betting system terminal in an in-home betting system.

**TRANSLATION**Pat.OPI HEI 01-25659  
(W1200-00033)

An object of the present invention is to reduce the congestion for processing of bets from a telephone betting system occurring in a ticket issuing system center, thereby to realize low cost telephone betting without enhancing the center function.

A terminal for an in-home betting system comprises: a television receiver having a teletext unit, and a computer system; or alternatively, a television receiver, and a computer system having a teletext adapter. The terminal for the in-home betting system further comprises: means for converting a teletext digital signal provided from the teletext unit in said television receiver or said

10 computer system, then inputting the result to said computer system, and thereby displaying the result of editing and processing; and means for inputting bet information from a keyboard (KB) of said computer system into a telephone betting system in accordance with instructions from said computer system.

**[Field of Industrial Application]**

The present invention relates to an in-home betting system terminal in an in-home betting system.

In a totalizator system such as a recent bet ticket issuing system, the methods of purchasing a bet ticket include: a cash betting system in which a bet

20 ticket such as a horse race ticket is purchased at a ticket booth at track or off track; and a telephone betting system under membership system.

In the (prior art) telephone betting system, a customer collects the information on horse races, bicycle races and the like from the newspaper, television, radio and the like. Then, on the basis of his own analysis, he bets on the race using a telephone set in accordance with a predetermined keying procedure.

In such a telephone betting system, a telephone set of poor intelligence is used as the means for betting. That is, the telephone does not provide efficient means for storing and processing the collected information. For example, in

30 case of inquiry by telephone at a headquarters center of the bet ticket issuing system, because of limited data base construction in the system of the center, provided information is presently limited only to race track condition, weather condition, entry cancellation information and the like. This rather poor information service provided for customers to bet the race has been a problem.

**TRANSLATION**Pat.OPI HEI 01-25659  
(W1200-00033)

On the other hand, using another system, such as CAPTAIN system, a videotex system, and a teletext system, currently in an early stage of utilization, latest information on horse races, bicycle races, and the like can be obtained quickly and accurately at any time.

These methods of obtaining information on horse races, bicycle races, and the like are classified into two categories. The first category is the down-load method in which the promoter of race sends out information in one way, whereby customers down-load the sent-out information. The second category is the interactive communications method in which mutual information exchange is carried out between the promoter and each customer.

10 In the down-load method using especially a cable network such as a value added network (VAN) and personal-computer communications, when the number of data addressees (or members) grows to a few hundred thousands in future, the heavy traffic requires large facilities in the center, thereby causing a huge cost of facilities and operation. Further, collection of the access charges is a problem to be resolved.

However, even in the down-load method, a wireless teletext scheme in which the sender sends out information in one way in a free-running manner avoids the problems concerning access charges and line usage charges, thereby 20 economically permitting the use of information on horse races, bicycle races and the like.

Further, when this information is stored in a personal computer capable of processing the data, the information can be processed into the most efficient form for betting, and then be displayed. This substantially reduces the load on the center system of the race promoter.

**[Prior Art and Problems to be Solved by the Invention]**

Figure 3 is a diagram showing an exemplary configuration of a prior art telephone betting system.

30 As described above, in a recent totalizator system, the methods of purchasing a bet ticket include: a cash betting system in which a bet ticket is purchased at a ticket booth at track or off track; and a telephone betting system under membership system.

As for the cash betting system, the possibility of increasing the number of

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betting booths at track is not expected much. Further, construction of betting booths off track is difficult in many cases because of collective actions by residents or arguments from local shopping malls.

In a telephone betting system 3 shown in the figure, the number of facilities and the number of subscribers have grown steady year by year. Nevertheless, since a telephone set is used as the terminal for performing the interactive cable communications, it is necessary to limit the number of subscribers 7 for each telephone betting system 3 in order to avoid the congestion in the data processing in a headquarters center 4 and hence to avoid 10 the degradation in customer service. This requires large facilities in the center, thereby causing the problems of large facilities and a high operation cost.

In order to resolve such problems in the prior art, an object of the present invention is to provide a terminal for an in-home betting system to be used in an in-home betting system in which a customer can expect the result of a horse race, bicycle race and the like, thereby betting on the expectation efficiently, at home.

**[Means for Solving the Problem]**

Figure 1 is a diagram showing the principles of a terminal for an in-home 20 betting system in accordance with the invention.

The above-mentioned problems are resolved by:

(1) A terminal for an in-home betting system comprising: a television receiver 1 having a teletext unit, and a computer system 2; or alternatively, a television receiver 1', and a computer system 2' having a teletext adapter;

the terminal for the in-home betting system comprising:

means for converting a teletext digital signal provided from the teletext unit in said television receiver 1 or said computer system 2', then inputting the result to said computer system 2 or 2', and thereby displaying the result of editing and processing; and

30 means ⑤ for inputting bet information from a keyboard (KB) 25 of said computer system 2 or 2' into a telephone betting system 3 in accordance with instructions from said computer system 2 or 2'.

(2) Said terminal for the in-home betting system, wherein said computer system 2 or 2' of said terminal for the in-home betting system comprises means

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for inputting bet information from a betting IC card.

**[Operation of the Invention]**

According to the invention,

information, on a horse race, a bicycle race and the like, generated in the information center system of a promoter of a race (horse race, bicycle race and the like) is transmitted as down-load information to a broadcast station, whereby the information is broadcasted in teletext by the broadcast station.

The teletext signal is received by and stored in the terminal for the in-  
10 home betting system in accordance with the invention comprising a television receiver and a computer system such as personal computer. On the basis of the information, for example, forecast software in the personal computer predicts the result of the race, whereby on the basis of the prediction, a user places a bet from the personal computer using a telephone via a public telephone line in accordance with a procedure instructed by the personal computer. Accordingly, the information on the horse race, bicycle race and the like is economically obtained by down-load operation. Further, since the public telephone line is used for data transfer, congestion in the center is reduced in comparison with the case of interactive cable communications according to the prior art, and  
20 hence the upper limit in the number of subscribers in each telephone betting system is raised. Furthermore, the data processing capability of the personal computer permits the arbitrary processing and editing of the information, thereby giving information for efficient determination of the race to bet.

**[Embodiments of the Invention]**

The embodiments of the invention are described below in detail with reference to the drawings.

The above-mentioned Figure 1 is a diagram showing the principles of a terminal for an in-home betting system in accordance with to the invention.  
30 Figure 2 is a block diagram showing an embodiment of the invention. The invention comprises: means for converting the digital information of teletext and thereby inputting the result to a personal computer 2; and means for placing a bet onto a telephone betting system 3 on the basis of the instruction from the personal computer 2. Like numerals herein designate the like

**TRANSLATION**Pat.OPI HEI 01-25669  
(W1200-00038)

elements throughout the figures.

The configuration and the operation of the terminal for the in-home betting system in accordance with the invention are described below with reference to Figures 1 and 2.

As shown in the principle diagram of Figure 1, the in-home betting system in accordance with the invention comprises: a broadcast station for teletext broadcasting; a terminal for an in-home betting system composed of a television receiver 1 and a personal computer 2; and a promoter system composed of a telephone betting system 3, a headquarters center 4, and an information center system 5. The main part of the invention is the terminal for the in-home betting system composed of television receiver 1 and personal computer 2.

10 The operation of the in-home betting system is as follows (see Figure 1).

① The information center system 5 transmits down-load information on a horse race, a bicycle race and the like, to the teletext broadcast station. Here, the information center system 5 receives the information on the horse race, the bicycle race and the like in the form of race achievements, odds and the like, from the headquarters center 4 of the telephone betting system.

② The broadcast station transmits the information in teletext.

③ and ④ The television receiver 1 provided in the terminal for the in-home betting system according to the invention receives the teletext broadcast signal. Received data (digital signal) is converted into a digital signal for personal computer 2. According to the data processing capability of the personal computer 2, the data is processed and edited into information convenient for determination of the race to bet (for example, the winning and loosing horses are predicted by a forecast system). The result is displayed on the display screen of the displaying section.

⑤ A customer selects menu interactively with personal computer 2, thereby placing a bet onto telephone betting system 3 via a public telephone line 6 according to the same procedure as that of telephone betting.

30 Figure 2 is a block diagram showing an embodiment of the terminal for the in-home betting system.

In the present embodiment, the terminal comprises a television receiver 1, a teletext adapter 11, and a personal computer 2. The digital output (raster data; a teletext 21P interface (Japanese Industrial Standards)) of the teletext

**TRANSLATION**Pa.OPI HEI 01-25659  
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adapter 11 is converted into an RS-232C interface signal by a converter 12, and then is stored through an I/O adapter (ADP) 22 of a known type (for example, RS-232C adapter used for personal computer communications), through the data bus of the personal computer 2, and into main storage (MS) 21.

A central processing unit (CPU) 20 of the personal computer 2 performs a specific program, and thereby processes and edits the data, and further stores the result into main storage (MS) 21.

The customer interactively searches the processed data, and obtains necessary information on the screen of a displaying section 23. Then, the 10 customer activates an communication adapter section 24, thereby transferring bet information from a keyboard (KB) 25, through the telephone network 6, and to the telephone betting system 3 in accordance with the predetermined procedure.

The bet may be carried out by an IC card control section 26 using an IC card containing the information on the purchase of bet ticket, when necessary.

In particular, when the terminal for the in-home betting system is located not at home but at track or off track, and when the telephone betting is carried out in the same procedure as that of in-home betting, the IC card allows so-called cashless betting.

20 In this case, the IC card also facilitates the management of the entry/ exit of the customer.

The above-mentioned embodiment has been described for the case in which television receiver 1 is provided with teletext adapter 11P. However, as shown in the principle diagram of Figure 1, the teletext adapter may be provided within the personal computer.

As such, the invention has been devised on the basis of the facts that the teletext broadcast provides down-load information sent out in one way in a free-running manner and that a recent small computer system such as a personal computer has sufficient data processing capability. Further, the 30 invention is characterized in that the information provided by a promoter of race is received through teletext by a personal computer at home and the like; that, according to the data processing capability of the personal computer, the data is processed and edited for the purpose of win/lose prediction of the race and the like; and that the telephone betting is carried out from the keyboard (KB)

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interactively with the personal computer according to the predetermined procedure.

**[Effects of the Invention]**

As described above in detail, in the in-home betting system with the terminal, the information on a horse race, a bicycle race and the like generated in the information center system of a promoter of a race (horse race, bicycle race and the like) is transmitted as down-load information to a broadcast station, whereby the information is broadcasted in teletext by the broadcast station.

10        The teletext is received by and stored in the terminal for the in-home betting system according to the invention comprising the television receiver and the computer system such as a personal computer. On the basis of the information, for example, forecast software in the personal computer predicts the result of the race, whereby on the basis of the prediction, a user places a bet from the personal computer using the telephone via the public telephone line in accordance with the procedure instructed by the personal computer. Accordingly, the information on the horse race, bicycle race and the like is economically obtained by down-load operation. Further, since the line used for data transfer is the public telephone line, congestion in the center is reduced in

20        comparison with the case of interactive cable communications according to the prior art, and hence the upper limit in the number of subscribers in each telephone betting system is raised. Furthermore, the data processing capability of the personal computer allows the arbitrary processing and editing of the information, thereby giving information for efficient determination of the race to bet.

**4. BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is a diagram showing the principles of a terminal for an in-home betting system in accordance with the invention.

30        Figure 2 is a block diagram showing an embodiment of the invention.

Figure 3 is a diagram showing an exemplary configuration of a prior art telephone betting system.

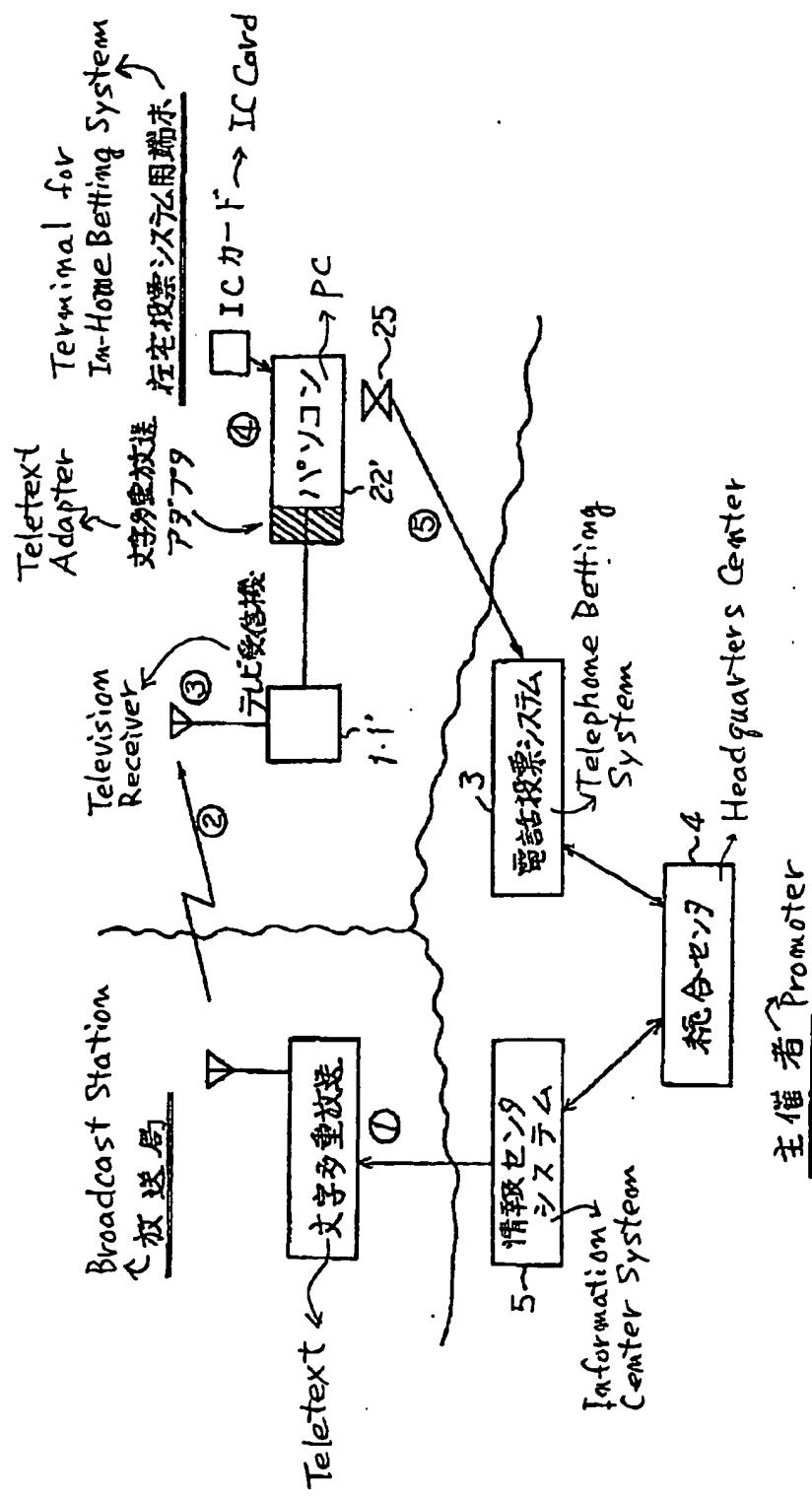
In the figures,

numerals 1 and 1' indicate television receivers,

**TRANSLATION**

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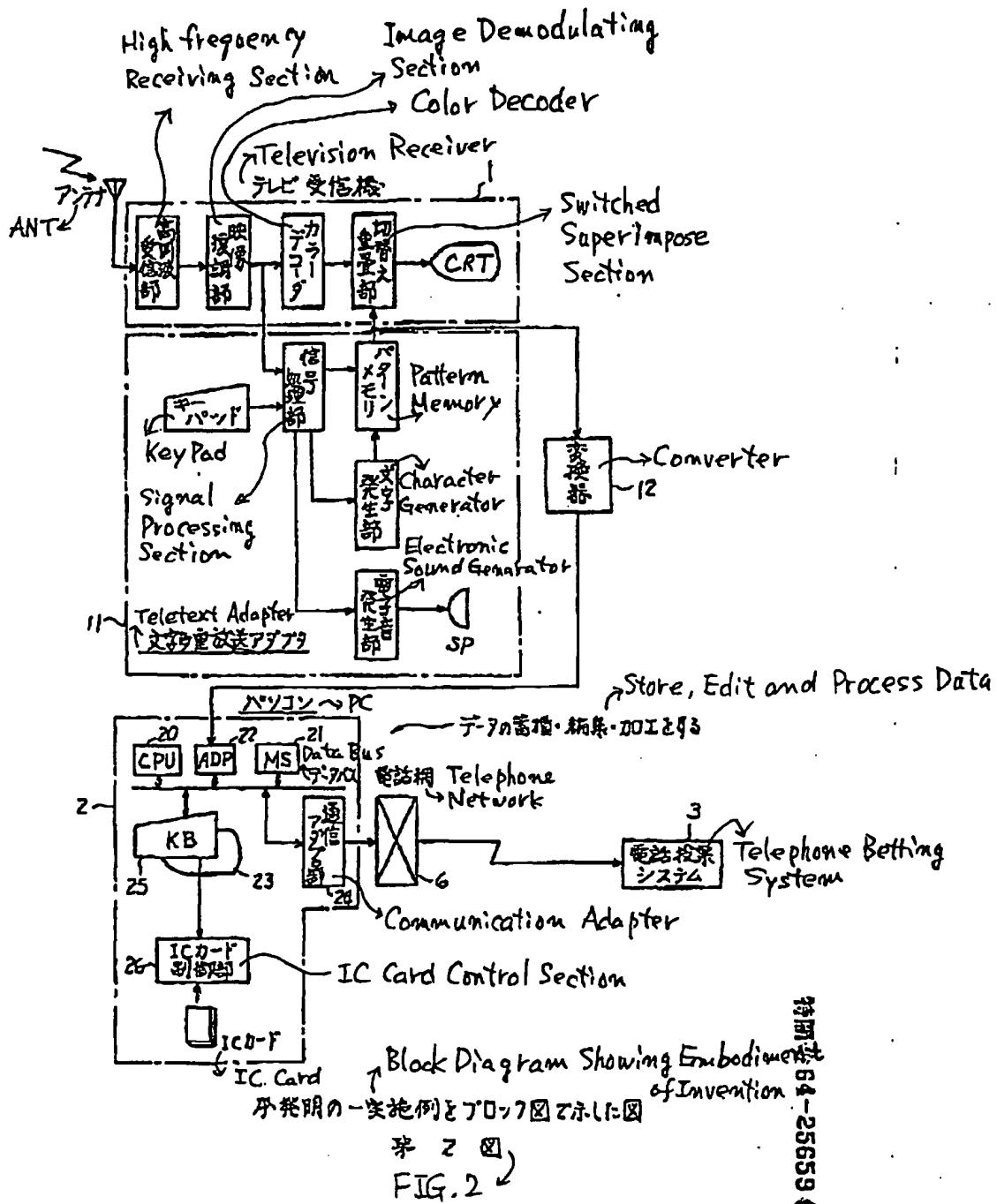
2 and 2' indicate personal computers,  
20 indicates a central processing unit (CPU),  
21 indicates main storage (MS),  
22 indicates input/output adapter (ADP),  
23 indicates a display section,  
24 indicates an communication adapter section 24,  
25 indicates a key board (KB),  
26 indicates an IC card control section,  
3 indicates a telephone betting system,  
10 4 indicates a headquarters center,  
5 indicates an information center system,  
6 indicates a telephone network or a public telephone line, and  
7 indicates a subscriber.



△ 装置の在宅投票システム用端末の原理図

Principles of Terminal  
for In-Home Betting System  
of Invention

第 1 図  
(FIG. 1)



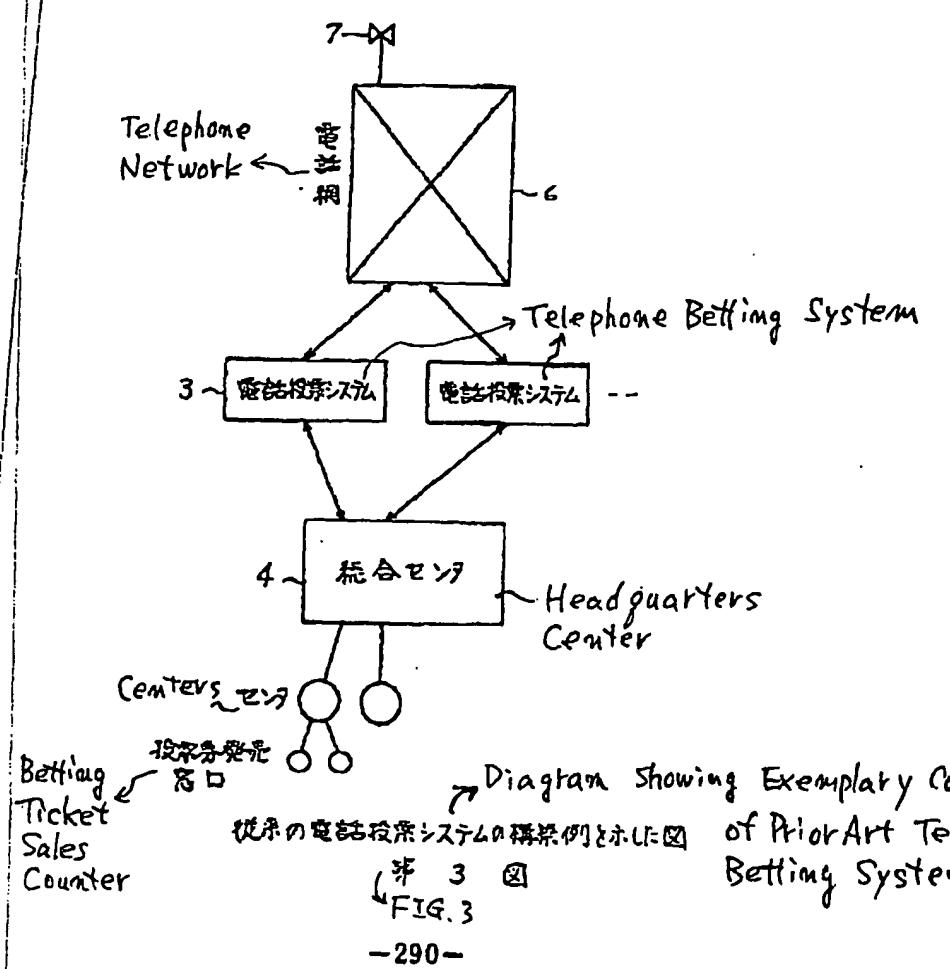


Diagram Showing Exemplary Configuration  
of PriorArt Telephone Betting System

図3  
FIG. 3